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Raise Voice against Noise

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Abstract

The whole world is alarmed at air, water and land pollution. But there's a deafening silence about noise pollution. Be it human or machine-created, noise disrupts normal activity and balance of life. Noise-induced hearing loss (NIHL) is the most common cause of sensorineural hearing loss (SNHL). NIHL is one of the most common workplace disorders and the second most self-reported occupational injury. Exposure to noise can be occupational or nonoccupational. Government and regulatory bodies have fixed the permissible limit of sound levels.Noise control laws are openly violated. It is the time that the public and authorities should awake against the danger of noise pollution. They should strictly enforce the noise control laws. Noise-induced hearing loss is 100% preventable, but once you have hearing loss, you'll have it for life.

Keywords: NIHL; Noise Pollution; Hearing Loss.

The word noise is derived from the Latin word "nausea" meaning impulsive, unwanted, and unpleasant. We hear different forms of pollutions like water pollutions, air pollution and soil pollution but it is very less often we have heard about noise pollution. Noise pollution can be defined as any unwanted electromagnetic signal that produces a jarring or displeasing effect and which interferes with human communication, comfort and feeling of wellbeing. We may get some idea about the severity of this detrimental effect from the fact that in China, till third century B.C., instead of hanging men for dangerous crimes, noise was used for their torturing .1 Noise-induced hearing loss (NIHL) is the most common cause of sensorineural hearing loss (SNHL). NIHL is one of the most common workplace disorders and the second most self-reported occupational injury. In US alone, thirty million workers are at risk for NIHL, and 22 million American adults ages 20-69 already have it. Forty-four percent of carpenters and 48% of plumbers report having a hearing loss. By the age 25, the average carpenter has the same hearing as a 50-year-old person who does not work

around hazardous noise [2].

Some common sources of this noise pollution are road traffic, industries, railway and air traffic and use of heavy generator. Increasing noise pollution is a big threat to the health and fitness of the people, if the noise pollution is allowed to go unchecked it may rob the people of their hearing capacity. Hearing impairment cannot be seen and hence its effects are not visible to others, so deaf suffers in silence. Unlike blindness, deafness often provokes ridicules rather than sympathy [3].

Exposure to noise can be occupational or nonoccupational. Increasing number of vehicles on the roads, rising growth of factories, construction work, loudspeakers used on various occasions, rock and pop music, etc. are various factors responsible for causing noise pollution.

Government and regulatory bodies have fixed the permissible limit of sound levels [Table 1]. The government has fixed a limit of 55 db maximum for residential areas during daytime and 45 db maximum during nighttime, which unfortunately is followed more in the breach than in practice. A citizen has a right to complain about noise that disturbs him. Police could lend a helping hand to shut down loudspeakers beyond 10 p.m. or warn a boisterous party going on next door. Noise control laws are openly violated.

Table 1: Permissible limits of sou	ınd
------------------------------------	-----

Areas	Day (d B)	Night (d B)
Industrial area	75	65
Commercial area	65	55
Residential area	50	45
Sensitive areas upto 100 metres around hospitals, educational institutions.	50	40

Noise exposure can cause two kinds of health effects. These effects are non- auditory effects and auditory effects. Non- auditory effects include stressrelated physiological and behavioral effects, and safety concerns. Auditory effects include hearing impairment resulting from excessive noise exposure and tinnitus. Noise-included permanent hearing loss is the main concern related to occupational noise exposure [2].

Exposure to sound above a level of approximately 85 dB initially manifest as a temporary hearing loss or dullness of hearing that is known as temporary threshold shift (TTS), which may have fast resolution within first 10-15 days of the exposure. However, a repeated or sustained exposure of noise to the inner ear hair cells and associated nerve fibers leads on to degenerative changes and the TTS becomes permanent threshold shift (PTS). The effect of excessive noise could be so devastating that it can cause permanent memory loss or psychiatric disorder. There are many hypothesis that include mechanical injury from basilar membrane motion, metabolic exhaustion, activity induced ischemia and ionic poisoning from breaks in the cell membrane.

Noise-induced hearing loss is 100% preventable, but once you have hearing loss, you'll have it for life. Exposure to harmful sounds causes damage to the sensitive structures of the inner ear. These structures can be injured instantly from an intense, brief impulse, such as the explosion of a firecracker, or gradually from continuous exposure to noise, such as in a woodworking shop [2].

The National Institute of Occupational Safety and Health has issued guidelines about the amount of time you can be exposed to different noise levels safely. If the level of noise in your workplace averages 85 dB, you are at risk for NIHL after 8 h of exposure. If the average level of noise is 88 dB, you are at risk after only 4 h of exposure. Thus, every increase of 3 dB beyond 85 dB reduces safety hours by half. Remember - the greater the noise level, the less time before hearing damage can occur. Moshamer and colleagues in a study concluded that the overall effect of noise on hearing depend on the frequency and intensity of sound, numbers of years of exposure as well as individual susceptibility [4]. Recent studies showed that Noise Induced Hearing Loss occurred over a duration of 7-8 years [5,6,7].

The audiologic profile of NIHL is the presence of sensorineural hearing loss that is most pronounced in the high-frequency region between 3,000 Hz and 6,000 Hz of the audiogram, and the greatest amount of hearing loss is typically around the 4,000-Hz region (i.e., 4,000 Hz dip) known as 4 kHz notch or Aviators notch [8].

Noise pollution is the most dreadful health hazard because of its insidious nature and some irreversible damage to the important structures of human body. A wide range of health hazards are resulted from noise pollution, ranging from deafness, tinnitus, hypertension, disturbed sleep, anxiety, psychiatric disorder, permanent loss of memory to difficulties in communication and even impediment in cognitive development in children. Among all the damaging effects on health, hearing loss is a major concern. The hearing loss from prolonged exposure to a certain degree of noise resulted from injury to the delicate sensory and neuronal components of the cochlea [10]. Noise is becoming an increasingly ubiquitous and unnoticed form of pollution even in the developed countries. Although it is a slow and subtle hazard to health, very little earnest attempts have been made to improve the same. We as health care professional are also at peril with certain specific situations like the utterance crowd of patients in OPD's, continuous beep of monitors in operation theater and ICU, the noise of suction machine and even of the drilling done by orthopedic, dental and ENT surgeons. Here I would like to mention another strong factor of injudicious use of loud speaker in the mosque/temples and religious/political gatherings. Another comparative cross sectional study done in stone crushing industry, the subjective hearing loss involved 21.5% of the individuals as compared to 2.8% of the control group [5]. So keeping all this in view, the dire need of the time is to make the people aware that noise is a pollutant, followed by to pick the cases early, before the irreversible damage to hair cells has occurred. For this the best option available is the serial audiometeries of the high risk population. Moreover certain preventive measure are of paramount importance including sound level detectors and protecting devices like ear plugs. Health education and mass campaign has a prime role to overcome this pollution. Special emphasis must be given to those industrial/factory workers who are also at risk with other ototoxic agents like tobacco and certain drugs. They are more prone to the detrimental effects of noise pollution because of their synergistic action. Long term follow up of these individuals will unmask the value of intervention done [5].

Traffic noise is one of the sources of noise that affects a householder. He/she has little control over such man-made noise, except taking certain steps to minimize the effect of noise inside. Plants outside, where possible, could cut some of the noise. Blinds and drapes on windows could further act as barriers. It is rare to see a construction, which has proactively taken steps to install noise-reducing steps such as fixing foam boards and other sound absorbing materials inside or outside the walls. That applies to windows, which could have a frame outside that could absorb or deflect sound. A floor could have sound absorbing materials coated to minimize noise when someone walks on it. Sound absorbing material could be fixed inside or outside at strategic locations which could minimize the external noise effect. That applies to noise deflectors, such as barriers and plants that could deflect noise if it is from any specific location.

Noise generated inside a house is rarely recognized by someone who has been living along. He/she fails to appreciate the fact that the noise level is high and could have long-term deleterious effects such as loss of hearing or other effects on the human body due to prolonged exposure to noise. There are a few sources of noise inside a house – TV, music system, airconditioner, washing machine, refrigerator, microwave and so on.

Loss of hearing is one health hazard which one recognizes when it's too late [9]. Personal stereos and cellphones should be used with caution, preferably at reduced sound levels or with hand-held devices and that too sparingly.

For the prevention of NIHL the interventional studies also need to involve appropriate control subjects. For keeping the inner ear sensorineural structures safe from the unwanted effects of noise, the use of hearing protective devices is the simple method. Professional health workers must be religiously involved in "hearing health" of at risk noise exposed individuals and should do concerted efforts to make it certain that noise pollution are minimized both during professional hours and relaxation periods by adapting the measures to reduce the excessive noise level as well as prompt use of Hearing Protection Devices (HPDs), when appropriate.

Honking by motorists is the largest source of noise pollution in the world. Relentless and unnecessary honking assaults our senses every day and is a major cause of road rage, anxiety, hypertension and sleep disorders. It is important that our authorities take note of this issue and take some serious steps to rid our cities of this menace.Indian Medical Association (IMA), Association of Otolaryngologists of India (AOI) & Awaaz foundation (Mumbai) have taken a National Initiative against Noise Pollution as NISS (National Initiative for Safe Sound). In an effort to end the menace of unnecessary honking, NISS celebrated April 26th, 2017 as "No Horn Day" in the country.

The whole world is alarmed at air, water and land pollution. But there's a deafening silence about noise pollution. Be it human or machine-created, noise disrupts normal activity and balance of life [11]. There is a dismal requisite to break the silence of emerging menace of noise pollution and achieve a noise free environment. The time has come that the intensity of the issue is properly identified by the health professionals, ordaining and law implementing bodies [12].

It is the time that the authorities should awake against the danger of noise pollution. They should strictly enforce the noise control laws. The noise producing factories located in the residential areas should be shifted to far-off places without any delay. The use of loudspeaker should be stopped after specific time. Above all, public needs to be aware and cooperative against the danger of noise pollution because without public cooperation authorities cannot make much difference. Lastly and more importantly is to create public awareness about the issue and involve the media to focus the matter.

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Verrucous Carcinoma Larynx: A Deceptive Entity

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Abstract

Verrucous carcinoma is an Unusual Indolent and Deceptive variant of well differenciated squamous cell carcinoma [1] that can be confused with a benign process. Verrucous carcinoma is most commonly seen in elderly male [2] smokers. In all likelyhood no other neoplasm of larynx calls for co-operation between a surgeon and pathologist as much as in the diagnosis of verrucous carcinoma as it is particularly deceptive. The lesion is very difficult to diagnose clinically and histopathologically from a well differenciated squamous cell carcinoma. Although curable at an early stage, leaving it untreated leads to local aggressiveness and calls for a green eyed early detection followed by early surgical intervention to give good results. Keeping in mind that each case is a generative source of ideas for medical and surgical inventions we worked up our case. Our case was diagnosed and treated early thus evading a need for tracheostomy and its consequences. A 53y old male who was a known smoker (40 pack years) who presented with hoarseness of voice of one month duration. Videolaryngoscopy revealed a proliferative growth involving the anterior commissure and anterior 2/3rd of the left vocal cord. Histopathology showed features suggestive of verrucous carcinoma larynx. Microlaryngeal surgery was done and the mass was excised in toto. Post-op period was uneventful with no recurrence till date.

Keywords: Verrucous Carcinoma; Ackermans Tumour; Laryngel Squamous Cell Carcinoma; Uncommon Variant of Squamous Cell Carcinoma.

Introduction

Why is verrucous carcinoma considered uncommon and is said to be an indolent variant of epithelial cancer ?

- Back in 1948, Ackerman as a pathologist delineated Verrucous Carcinoma as a clinico – pathological entity [3].
- This uncommon variant of laryngeal squamous cell carcinoma calls for absolute co-operation between the pathologist and the surgeon as it has always been a dilemma to the pathologist and the surgeon alike.
- The Pathologist sees a very high differentiation of tumour thus making the diagnosis of malignancy difficult. He always underestimates the malignant potential of the lesion, thus

labelling it as benign hyperplasia.

• The Surgeon is confused because of the controversy about the treatment and he tends to over estimate the malignant potential of the tumour because he sees a very obviously invasive and fungating tumour

Being described as a highly differentiated, verrucoid squamous cell carcinoma of mucosa or skin, verrucous carcinoma is a malignant neoplasm that arises most often from the oral mucosa followed by larynx (0.7-1.0%) [3] making glottis the most common non oral head and neck site for verrucous carcinoma. Similar lesions have also been reported involving the genitals, nasal passage and oesophagus. The incidence of verrucous carcinoma is among the least common of oral cancers ranging from 4.5-9%. Thus far, India seems to have reported the largest experience where oral cancer constitutes

about 27% of all cancers [4].

Verrucous carcinoma is seen predominantly in men in their 6th or 7th decade with a history of consumption of alcohol, chewing or smoking tobacco.

Several authors opine that HPV possibly play a vital role in the genesis of verrucous carcinoma as HPV DNA has been identified in approximately 85% of patients with laryngeal verrucous carcinoma [5], sadly, to a lesser extent they have also been isolated from normal cells as well. Thus the role of HPV in the patho physiology of verrucous carcinoma is still under debate.

In laryngeal Verrucous carcinoma hoarseness of voice is always the most common presenting symptom while dyspnoea and dysphagia are restricted to large tumours.

Case

A 55 y old male patient presented with Hoarseness of voice of 1 month duration. He was a known Smoker of 40 pack years. He had no previous history suggestive of dysphagia, dyspnoea. Patient was clinically examined and video laryngoscopy showed an exophytic bulky growth occupying the anterior commissure and anterior 1/3rd of left vocal cord. The mass was sessile and did not move with respiration. Left vocal cord showed restricted mobility. The findings were confirmed with a CT-THORAX. CT report was suggestive of laryngeal tumour without any paraglottic involvement.



Fig. 1: Video directed laryngoscopy showing growth involving left vocal cord and anterior comissure



Fig. 2: Ct-thorax - arrow head pointed towards the verrucoid growth

Keeping in mind the concept of field cancerisation⁶ and multicentric or multi focal nature of squamous cell carcinoma Patient was subjected to haematological, biochemical and radiological and triple endoscopic investigations which proved negative for distant metastasis and second primaries.

Treatment

Based on the available investigative data surgical mode of treatment was opted. Micro laryngeal surgery was done and the mass was removed in toto and sent for histo pathological examination. There was no paraglottic or subglottic extension. Post operative period was uneventful and the patient was discharged on the 10th post operative day.



Sectioned study of the lesion showing stratified squamous epithelium with a broad base, widened rete ridges and no breech in the basement membrane



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A 40 x view of the same specimen with few koilocytes and occasional mitotic figures. The abundant eosinophilic cytoplasm represents keratinisation.

The histopathological examination showed stratified squamous epithelium with no breech in the basement membrane, few koilocytes and occasional mitotic figures, abundant keratinized layer covering the fungating fronds and well circumscribed margins composed of rete ridges suggestive of verrucous carcinoma. The patient is being regularly followed up with no signs of recurrence or distant metastasis. Patient is fine till date and has a reasonably good functional voice.

Discussion

Verrucous carcinoma is also known as verrucous squamous cell carcinoma or Ackermans tumour. Literature has also used other names like Buschke – Loewenstein tumour, epithelio macuniculatum, florid oral papillomatosis and carcinoma cuniculatum [7]. Keeping in mind that the etiology and symptomatology is the same as laryngeal squamous cell carcinoma, an adequate biopsy material is required to obtain a firm diagnosis.

However, to this day, even with a good tissue sample that includes the interface of the tumour with the host, the diagnosis of carcinoma may still prove elusive because the epithelial component of these tumours is still well differentiated and the basement membrane remains intact.

Gross appearance of a typical lesion is a pale, warty, fungating, locally aggressive tumour with a broad base, well circumscribed and clearly demarcated from adjacent tissue [8].

Microscopically verrucous carcinoma is broad based, thrown into papillary fronds, heavily keratinised with a hyperplastic epithelium that pushes rather than infiltrate and has a prominent inflammatory reaction in the adjacent tissue where as a well differentiated squamous cell carcinoma has aggregates of atypical or dysplastic squamous epithelium which exhibits premature keratinisation and high mitotic activity and acantholysis. Infiltration of irregular cords of dysplastic squamous epithelium into adjacent stroma is well appreciated.

Mortality in verrucous carcinoma is mainly due to local invasion and bone destruction as they have the property to erode the adjacent structures rather than invade. Regional lymph node metastasis is uncommon but they might be enlarged and tender when infected and they do not have a predilection for distant metastasis⁹

Head and neck surgeons show a clear reference for surgery with a local control rate of 77-100%. Reports on the role of radiotherapy in the management of verrucous carcinoma are controversial since they are not only said to be radio resistant but they also have anaplastic transformation post exposure in 30% [10]. How ever in spite of local recurrence. Ackerman has opined that radiation offers a reasonable chance for control when the lesions are small and relatively superficial.

Epilogue

Prognosis of verrucous carcinoma is excellent when diagnosed early and treated addequatelu and appropriately. Leaving it untreated leads to local aggressiveness thus calling for a green eyed early detection. Fortunately we diagnosed our case early enough thus avoiding the need for tracheostomy or laryngectomy and was cured completely by microlaryngeal surgery.

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Chronic Invasive Fungal Sinusitis in an Immunocompetent Patient

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Abstract

Aspergillosis of the nasal and paranasal sinuses is a common opportunistic fungal infection in immunocompromised patients. However invasive variant in normal hosts is a very rare occurrence. We report a case of invasive aspergillosis involving the maxillary sinus in an immunocompetent patient. The patient underwent endoscopic clearance followed by antifungal therapy.

Keywords: Aspergillosis; Immunocompetent; Antifungal.

Introduction

Aspergillus is a common fungus which lives in soil and decaying organisms. Aspergillosis of head and neck primarily affects the nose and paranasal sinuses. Invasive paranasal aspergillosis has been increasing over the past few years and has been associated with an increase in immune-deficient states such as steroid therapy, cancers. Rarely invasive aspergillosis has been reported in patients in immunocompetent patients [1]. In this case report a case of a immunocompetent patient with chronic invasive sinus aspergillosis is discussed.

Case Report

37 yr lady from Karnataka presented with swelling left cheek and nasal obstruction on the left side 6 months. There was no history of any epistaxis, headache, postnasal drip, loosening of teeth or diplopia. There was no history of any medication. There was no history of systemic illnesses like Tuberculosis, Diabetes. On examination she had fullness left maxillary region with distortion of the left nasolabial fold. Anterior rhinoscopy showed a fleshy mass left nasal cavity arising from left middle meatus which did not bleed on touch. Local examination showed diffuse fullness of left maxillary region. Computerized Tomographic scan of showed homogenously paranasal sinuses enhancing mass lesion filling left maxillary and ethmoidal [Figure 1] sinuses causing bony destruction. Investigations serological tests including HIV were negative. Blood sugar levels were normal. Provisional diagnosis was of a paranasal sinus neoplasm left. Patient was taken up for an endoscopic biopsy. Endoscopic biopsy report showed lining by stratified respiratory epithelium with underlying stroma showing both hypocellular edematous area and hypercellular area with proliferating blood vessels. There were many multinucleated foreign body giant cells with moderate to severe degree of lymphoplasmacytic infiltration. No atypia was seen. Periodic acid-Schiff & Grocott stain showed few septate fungal hyphae. Fungal culture grew aspergillus on Sabourand's agar [Figure 2]. Patient was started on oral Voriconazole 200mg twice a day and then taken up for clearance of disease endoscopically. Using 0° and 30° nasal endoscopes part of uncinate process was removed and a mass was found involving left

maxillary sinus left anterior and posterior ethmoids[Figure 3] reaching left frontal sinus and left sphenoid and reaching posterior choanae. The mass was debulked with a microdebrider. Subsequently left anterior and posterior ethmoidectomy and maxillary antrostomy with left frontal sinusotomy and sphenoidotomy was done and the entire mass was cleared [Figure 4]. Her postoperative recovery was uneventful.



Fig. 1: CT scan PNS showing the mass left maxillary and ethmoidal sinus



Fig. 2: Potassium hydroxide mount from culture showing the fungus



Fig. 3: Endoscopic picture of the mass



Fig. 4: Photograph of the specimen

Histopathology Haematoxylin and eosin section showed normal ciliated columnar lining epithelium with underlying seromucinous glands in stroma. Other sections showed numerous confluent granulomas with foreign body and langhan's type of giant cells and dense lymphoplasmacytic inflammation. Fungal stains showed septate branching fungi with tissue invasion showing acute angle branching. There was no evidence of dysplasia or malignancy. Histopathology was of granulomatous invasive fungal sinusitis. Postoperatively patient was continued on Tablet Voriconazole 200mg BD for 6 months, saline nasal douche and weekly endoscopic toilet. Followup at 2 years showed no recurrence.

Discussion

Aspergillosis has been classified as per Rowe Jones [2] in 1994 as 3 main types namely noninvasive, invasive, destructive non invasive types. Invasive sinus aspergillosis represents true fungal tissue invasion and can be either a) acute fulminant, b) granulomatous, c) chronic invasive. Invasive and fulminant forms are common in immunocompromised patients. However, an invasive form in an immunocompetent host is very rare. Less than 100 cases of chronic invasive aspergillosis in immunocompetent hots have been reported in literature with more incidence in the tropical regions [3]. Only 5 cases have been reported from India in immunocompetent patients as per available literature [1,4]. Natural immunity plays a major role in defence against aspergillus by recognition and clearance of organism in an immunocompetent host. The mechanism causing invasiveness of aspergillosis in immunocompetent hosts remains unclear with multiple reasons being attributed for it. It could be qualitative cellular or subcellular immunodeficiency that is either unrecognised or poorly characterised [5]. The presence of local pathologies in the paranasal sinuses including nasal polyps and recurrent bacterial infections promote fungal infection with stagnation of nasal secretions [6]. If the maxillary sinus ostium is blocked the mucociliary clearance system is impaired and aspergillus growth is favoured.

Initially aspergillosis presents with symptoms of sinusitis but eventually the infection causes tissue destruction of sinuses and adjacent structures [7]. The presentation of localised invasive aspergillosis of maxillary sinus can mimic conditions such as neoplastic and other granulomatous diseases. A high index of clinical suspicion is needed as the imaging findings may be subtle. Rarely aspergillosis may coexist with squamous cell carcinoma in the maxillary sinus [8]. Successful treatment of aspergillosis requires prompt diagnosis and rapid initiation of therapy because delay or non- aggressive therapy can result in the spread of infection with lethal consequences.

The mainstay of treatment in invasive fungal sinusitis is rapid reversal of any condition compromising immunity, radical sinonasal debridement (external or endoscopic) till bleeding margins are obtained and systemic antifungal therapy. The type of treatment depends on the extent of disease at time of presentation and rapidity of its progression Washburn [9] advocated the need for a prolonged course of antifungal agents in such cases of chronic invasive sinusitis. Voriconazole is a triazole antifungal agent that acts by inhibiting fungal cytochrome p450 which is essential in fungal ergosterol biosynthesis. The subsequent loss of ergosterol causes destruction of cell wall and fungal death. Herbrecht R et al [10] in their paper observed a satisfactory response at 12 weeks in 53% of patients of confirmed aspergillosis taking voriconazole .Our patient underwent antifungal therapy for 6 months. She has been on followup for 2 years and has remained asymptomatic.

Conclusion

Early recognition of invasive aspergillosis, differentiating it from malignant lesions and other granulomas of sinuses is very important as its presentation is very deceptive. The possibility of invasive paranasal sinus aspergillosis needs to be kept in mind while examining healthy immunocompetent patients.

Conflicts of Interest: Nil

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Situs Inversus Totalis with Chronic Tonsillitis

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Abstract

Chronic tonsillitis is a inflammatory lesion of pharynx most commonly affecting children in the first decade of life. Situs inversus totalis is a rare congenital condition occurring with an incidence of 1:5000 to 1: 10000 in which there is mirror image transposition of both the abdominal and thoracic visera. The etiology of occurance of situs inversus totalis is still unknown, such individuals are generally asymptomatic and have a normal life expectancy and the condition may go unnoticed for years. We describe the first reported case of situs inversus totalis with dextrocardia in a teenage patient with chronic tonsillitis.

Keywords: Situs Inversus Totalis; Chronic Tonsillitis; Dextrocardia.

Case Report

A 14 year old male, presented to our ENT out patient department with the complaints of throat pain on and off for the past 3 years and complaints of snoring for the past 1 year. On General examination patient was found to have bilateral jugulo digastric lymph node enlargement. On examination cvs: heart sounds were heard on the right side , apex beat was at the right 5 th intercostal space 1cm medial to midclavicular line. ENT examination: oral cavity was WNL, oropharyngeal examination showed bilateral grade III tonsillar hypertrophy . X ray nasopharynx showed adenoid hypertrophy.

Based on history and clinical examination patient was diagnosed as a case of chronic adenotonsillitis.Chest x ray PA view showed heart in right hemithorax, trachea was found to be in the midline and with normal bronchovascular markings. For evaluation of the heart 2D ECHO was done which showed left arotic arch AV/VA concordance, adequate LV function and Isolated Dextrocardia without anyshunt lesion. Ultrasound abdomen images revealed features suggestive of situs inversus totalis with normal study of visualised solid intraabdominal structures. Routine blood investigation and ECG was within normal limits. Adenotonsillectomy was performed under GA under antibiotic coverage, Intra operative and post operative period was uneventful. Histopathological examination showed chronic non specific tonsillitis along with diffuse lymphoid hyperplasia.



Fig. 1: x ray chest PA view



Fig. 2: ECHO shows no shunt abnormality



Fig. 3: USG abdomen shows liver in the left hypochondrium

Discussion

Palatine tonsils are a part of waldeyer's lymphatic ring responsible for the first line of defence against pathogens. Since Tonsils play a vital role in our immune system, they are prone for infection very frequently. Tonsils are more active during childhood and regress with age, in adults only a small amount of lymphatic tissue remains [1]. Tonsillitis is frequently recurrent and rebel to antibiotherapy [2]. chronic tonsillitis results in many complication of systemic organs like acute otitis media, rhinitis, sinusitis, descending respiratory tract infection, endocarditis, glomerulonephritis [3,4]. The full role of human physiology and immunology and its effects on immune system both local and systemic is not completely understood [5]. Although antibiotic treatment may be sufficient in case of acute tonsillitis, tonsillectomy remains the treatment of choice in case of chronic and recurrent tonsillitis Situs Inversus Totalis is situs Inversus with Dextrocardia which means mirror images of normal anatomical structures. Leoanardo da vinci 1452-1519 first saw a case of dextrocardia which was latter recoginised by Marco Aurelio Severinein (1643) and described it more than a century later by Matthew Ballie. It is a rare condition with prevelance of 1:10,000 in some population [6]. The exact cause of dextrocardia has been a mystery till date, but several factors have found to have a link sincluding recessive gene with incomplete penetrance, maternal diabetes, cocain use, conjoint twin.

In humans, the right and left axis is determined at the beginning of the embryonic development with the formation of dorso-ventral and cephalo-caudal axis, the cardia tube when curves to right is the first sign of asymmetry [7]. Situs inversus totalis is found to have association with kartagener syndrome [8],

Lutembachers syndrome where there is combination of congenital ostium secundum ASD with acquired MS.

In our case the patients ECHO showed no abnormality, no shunt lesion was detected, On routine investigation we found out that the patient has dextrocardia and ultrasonography follow through showed situs inversus. The active management of these patient is done when there is association with congenital heart defects or associated with syndromic features, other wise it goes unnoticed with normal life expectancy [9].

Conclusion

Although the health care system is developing across India ,rural population still seek indigenous home remedies as the first line of management for their common ailments. Tonsillectomy is the definitive treatment for chronic tonsillitis patients.

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Capillary Hemangioma of Gingiva Mimicking as Pyogenic Granuloma

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Abstract

Capillary hemangioma is benign proliferation of blood vessels that primarily occurs during childhood. Pyogenic granuloma and capillary haemangioma are well known and commonly occurring benign vascular lesions of the oral cavity. Pyogenic ulcerative granuloma is known to show a striking predilection for the gingiva and capillary hemangioma frequently occurs in the lips, cheek, and tongue. The gingival occurrence of capillary hemangioma is considered relatively rare. The purpose of this article is to report an unusual case of benign tumor occurring on the gingiva which was clinically diagnosed as pyogenic granuloma and histopathologically proved to be a capillary hemangioma.

The clinical diagnosis of such an uncommon occurrence can be quite challenging as they sometimes may mimic benign as pyogenic granuloma Otorhinolaryngologist should therefore be aware of these lesions when making a diagnosis and attempts at excision of apparently innocent lesions may result in serious bleeding.

Keywords: Capillary Hemangioma; Excisional Biopsy; Gingival Overgrowth; Pyogenic Granuloma.

Introduction

Pyogenic granuloma and capillary hemangioma are well-known commonly occurring benign vascular lesions of the oral cavity. Pyogenic granuloma is a relatively common, soft-tissue tumor of the oral cavity that is believed to be reactive and non neoplastic in nature.

The name pyogenic granuloma is a misnomer since the condition is not associated with pus and does not represent a granuloma histologically [1]. Some authors use the term lobular capillary hemangiomao (LCH) of orothis Blesion [2].

Hemangiomas are benign tumors composed of blood vessels and are classified based on their histological appearance as capillary, mixed, cavernous, or a sclerosing variety that tends to undergo fibrosis [3]. It is the most common benign oral soft-tissue tumor in children. Although, it is considered one of the common soft-tissue tumors of the head and neck, it is relatively rare in the oral cavity. Capillary hemangiomas are composed of many small capillaries lined with a single layer of endothelial cells supported in connective tissue stroma of varying density. Of all the patients who eventually develop capillary haemangioma 30% of them have evidence of their presence at birth, while 100% have manifest them by age 6months. Both pyogenic granuloma and capillary hemangioma rarely occur on the palatal mucosa, occur in younger age group and histopathologically resemble each other.

Thus, the differentiation between a capillary hemangioma and pyogenic granuloma has to be made which sometimes becomes difficult. The aim of this report is to present a case with a lesion which was clinically diagnosed as pyogenic granuloma, but Ohistologically Oresembled Ocapillary Ohemangioma.

Case Report

A 5-year-old girl presented with complaints of swelling in oral cavity for the past 1month with sudden increase in size of the swelling over the past 1week.Child had no complaints of bleeding or pain over the swelling.Other medical history were unremarkable. On clinical examination 2x1cm single, sessile, nodular, eryhmatous growth was seen over the floor of the oral cavity. On palpation the mass was firm in consistency and found to be arising from the gingiva adjacent to the left lower incisor and canine tooth. The mass did not bleed on touch.Based on the above findings provisional diagnosis of pyogenic granuloma was made.All baseline investigations were done and found to be normal. We planned for excision of mass under General anaesthesia.



Fig. 1: Showing mass in the floor of mouth

The mass was carefully excised in toto using bipolar cautery.1mm of normal mucosa was removed with the lesion in order to ensure total removal of lesion and prevent recurrence. Haemostasis was secured. The excised mass was sent for histopathological examination.



Fig. 2: Immediate Post-op picture showingcomplete excision of mass

Histopathological examination revealed that tissue is lined by benign stratified squamous epithelium with foci of ulceration. Sub epithelial tissue showed dense infiltration by acute and chronic inflammatory cells. Also seen is a lobulated lesion composed of benign proliferation of several thin walled vascular channels. The overall features were suggestive of Ulcerated Capillary Haemangioma.



Fig. 3: Post-op Days 7 Picture shows complete healing of surgical site

Discussion

Capillary haemangioma is believed to be a hamartomatous proliferation of vascular endothelial cells. They are now thought to be of placental origin due to a unique microvascular phenotype shared by juvenile hemangioma and human placenta. Pathologically it is characterized by an increased number of endothelial and mast cells, the latter being a stimulus for vessel growth. Female:Male ratio 3:1. Capillary haemangioma also known as an Infantile haemangioma and strawberry nevus is the most common variant of heamangioma which appears as a raised red, lumpy area of flesh anywhere on the body though 83% occur in the head and neck. These marks occur in about 10% of all births, usually appear between one and four weeks after birth. Some are gone by the age of 2, about 60% by 5years, 90-95% by 9years.

Pyogenic granuloma is a vascular lesion that occurs on both mucosa and skin and appears as an overgrowth of tissue due to to irritation, physical trauma, or hormonal factors. It is often found to involve the gums, the skin and nasal septum. Pyogenic granuloma are known as a eruptive

haemangioma, granulation tissue type hemangioma, granuloma gravidarum, pregnancy tumour, tumour of pregnancy. In the oral cavity pyogenic granulomas show a striking predilection for the gingiva with interdental papillae being the most common site in 70% of cases. It is of two types based on histological features. These are Lobular Capillary Haemangioma type and non - Lobular Capillary Haemangioma type. LCH pyogenic granuloma is characterized by proliferating blood vessels that are organized in lobular aggregates even though superficially the lesion shows no specific change of edema, capillary dilation or inflammatory reaction. Histologically, LCH pyogenic granuloma has an attenuated endothelial lining surrounded by somewhat uniform proliferation of plump to spindled cells, in contrast to the more prominent endothelial cells and an array of capillary size blood vessels with lobular architecture of a capillary hemangioma. Moreover, the capillaries in LCH pyogenic granuloma are frequently arranged perpendicular to the surface The non-LCH pyogenic granuloma shows vascular proliferation that resembles granulation tissue. Foci of fibrous maturation are seen in 15% of non-LCH pyogenic granuloma but are totally absent in LCH type of pyogenic granuloma [5].

As in the present case, pyogenic granuloma ("Lobular Capillary Hemangioma") is a proliferative vascular lesion often clinically confused with hemangioma, unfortunately, both share the histologic designation "Capillary Hemangioma." A pyogenic granuloma appears suddenly. A history of trauma to the area is rarely elicited from the parents. Usually the patient is an older infant or young child, although the lesions also occur in adults. Cheek, eyelids, and extremities are the typical location for pyogenic granuloma. It also presents on the lips, oral mucosa, tongue, and nasal cavity. A curious and not infrequent occurrence is a pyogenic granuloma within a portwine vascular birthmark, either intra or extraorally. An early pyogenic granuloma, with its epidermis intact, bears more resemblance to a tiny hemangioma. The pyogenic lesion usually has a pedunculated shape with a tiny stalk. The pathologist often designates the lesion a "capillary hemangioma, granuloma type" or "lobular capillary hemangioma." It may be difficult to make a light microscopic differentiation between a true hemangioma of infancy and a pyogenic granuloma. However, pyogenic granuloma exhibits immunocytochemical and ultrastructural differences. It is predominantly perithelial, rather than an endothelial tumor.

The differential diagnosis of hemangiomas includes pyogenic granuloma, chronic inflammatory

gingival hyperplasia (epulis), epulis granulomatosa, and squamous cell carcinoma [6]. The present case has clinical but not the histopathological features of a pyogenic granuloma. Therefore, biopsy of tissue specimens is often necessary for Odefinitive Odiagnosis.

The range of treatment includes surgery [6], laser therapy [7], use of sclerosing agents [8], and embolization. Surgical excision is generally the treatment of choice. In the reported case, surgical excision was done based on the provisional diagnosis of pyogenic granuloma. Attempts to remove hemangiomas using surgical excision may lead to serious problems such as heavy bleeding. However, in this case no bleeding was encountered during excision. This might be due to the fact that the hemangioma might not be in an active proliferative phase and might not have penetrated the epithelium basement membrane interface. In addition, postoperative recurrence may occur [6]. The case described here demonstrate that there has been no subsequent hemorrhage or other evidence of recurrence. Still longer follow-up periods are required to provide conclusive statement.

Conclusion

Capillary hemangioma is a lesion that is diagnosed primarily on histological findings. Although, it is asymptomatic, its peculiar location may require immediate intervention. The case in the discussion was worthy of reporting because of its uncommon location on the anterior gingiva. Lesions in this area often lead to impaired nutrition and oral hygiene, increased accumulation of plaque and microorganisms and thereby increased susceptibility to oral infections. The clinical picture and location of the lesionin our case led to a provisional diagnosis of pyogenic granuloma, but histological findings were suggestive of capillary hemangioma. Early detection and biopsy of such lesions is necessary to institute appropriate management. In addition, the surgical management should be performed with caution anticipating profuse intraoperative and post operative bleeding.

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Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical details can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

Discussion

Include summary of key findings (primary outcome measures, secondary outcome measures, results as they relate to a prior hypothesis); Strengths and limitations of the study (study question, study design, data collection, analysis and interpretation); Interpretation and implications in the context of the totality of evidence (is there a systematic review to refer to, if not, could one be reasonably done here and now?, What this study adds to the available evidence, effects on patient care and health policy, possible mechanisms)? Controversies raised by this study; and Future research directions (for this particular research collaboration, underlying mechanisms, clinical research). Do not repeat in detail data or other material given in the Introduction or the Results section.

References

List references in alphabetical order. Each listed reference should be cited in text (not in alphabetic order), and each text citation should be listed in the References section. Identify references in text, tables, and legends by Arabic numerals in square bracket (e.g. [10]). Please refer to ICMJE Guidelines (http://www.nlm.nih.gov/bsd/uniform_ requirements.html) for more examples.

Standard journal article

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O, Kidd EAM,

editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online – Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/ HSQ 20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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